

IN THE CLAIMS:

Please amend claims 1, 11-21, 23-25, 27-28, 30-31 and 33 as follows.

1. (Currently Amended) A method, comprising:

determining from a received signal at least one variable representing statistical characteristics of the channel;

determining a prefilter using the at least one variable representing the statistical characteristics of the channel; and

adapting sample rate of the prefilter output for a channel estimator used when receiving signals, wherein the sample rate is adapted in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of channel determined from the received signal.

2. (Previously Presented) The method of claim 1, wherein the statistical variable is Doppler spread, the form of Doppler power spectrum, the width of Doppler power spectrum, the speed of a radio transmitter, channel coherence time, correlation between channel measurements or signal-to-noise ratio.

3. (Previously Presented) The method of claim 1, wherein the sample rate is adapted by decimation.

4. (Previously Presented) The method of claim 1, wherein the sample rate is adapted by interpolation.

5. (Cancelled)

6. (Previously Presented) The method of claim 1, wherein the length of the channel estimator is constant.

7. (Previously Presented) The method of claim 1, wherein the Doppler spread is measured at the prefilter input.

8. (Previously Presented) The method of claim 1, wherein the Doppler spread is measured at the prefilter output.

9. (Previously Presented) The method of claim 1, wherein the Doppler spread or the correlation between the channel measurements are kept at least substantially constant using feedback at the prefilter output.

10. (Previously Presented) The method of claim 1, wherein the bandwidth of the decimator and interpolator filters changes in relation to a change in the sample rate.

11. (Currently Amended) ~~A prefiltering arrangement~~A prefiltering apparatus, comprising:

~~a determining unit~~ variable determiner configured to determine from a received signal at least one variable representing statistical characteristics of the channel,

~~a determining unit~~ determiner configured to determine the number of prefilter taps using the at least one variable representing the statistical characteristics of the channel,

~~an adapting unit~~ adaptor configured to adapt sample rate of the prefilter output for a channel estimator used when receiving signals, wherein the sample rate is adapted in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of channel determined from the received signal.

12. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, wherein the statistical variable is Doppler spread, form of Doppler power spectrum, width of Doppler power spectrum, speed of a radio transmitter, channel coherence time, correlation between channel measurements or signal-to-noise ratio.

13. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, ~~the arrangement~~ further comprising:

~~an adapting unit~~ a decimation adaptor configured to adapt the sample rate by decimation.

14. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, ~~the arrangement further~~ comprising:

~~an adapting unit~~ an interpolation adaptor configured to adapt the sample rate by interpolation.

15. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, ~~the arrangement further~~ comprising:

~~an adapting unit~~ a variable adaptor configured to adapt the sample rate in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of the channel determined from the received signal.

16. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, wherein the length of the channel estimator is constant.

17. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, ~~wherein the arrangement comprises~~ further comprising:

~~a measuring unit~~ measurer configured to measure Doppler spread at the prefilter input.

18. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, ~~wherein the arrangement comprises~~ further comprising:

a ~~measuring unit~~ measurer configured to measure Doppler spread at the prefilter output.

19. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, wherein the Doppler spread or the correlation between the channel measurements is kept at least substantially constant using feedback at the prefilter output.

20. (Currently Amended) The ~~prefiltering arrangement~~ apparatus of claim 11, wherein the bandwidth of the decimator and interpolator filters changes in relation to a change in the sample rate.

21. (Currently Amended) An apparatus, comprising:

a ~~determining unit~~ variable determiner configured to determine from a received signal at least one variable representing statistical characteristics of the channel,

a ~~unit~~ determiner configured to determine the number of prefilter taps using the at least one variable representing the statistical characteristics of the channel,

an ~~adapting unit~~ adapter configured to adapt sample rate of the prefilter output for a channel estimator used when receiving signals, wherein the sample rate is adapted in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of channel determined from the received signal.

22. (Previously Presented) The apparatus of claim 21, wherein the statistical variable is Doppler spread, form of Doppler power spectrum, width of Doppler power spectrum, speed of a radio transmitter, channel coherence time, correlation between channel measurements or signal-to-noise ratio.

23. (Currently Amended) The apparatus of claim 21,~~wherein the apparatus comprises~~ further comprising:

~~An adapting unit~~ a decimation adapter configured to adapt the sample rate by decimation.

24. (Currently Amended) The apparatus of claim 21,~~wherein the apparatus comprises~~ further comprising:

~~an adapting unit~~ an interpolation adapter configured to adapt the sample rate by interpolation.

25. (Currently Amended) The apparatus of claim 21,~~wherein the apparatus comprises an adapting unit~~ further comprising:

a variable adapter configured to adapt the sample rate in relation to the prefilter input signal and the variable representing the statistical characteristics of the channel determined from the received signal.

26. (Previously Presented) The apparatus of claim 21, wherein the length of the channel estimator is constant.

27. (Currently Amended) The apparatus of claim 21, ~~wherein the apparatus comprises~~ further comprising:

~~a measuring unit~~ measurer configured to measure the Doppler spread at the prefilter input.

28. (Currently Amended) The apparatus of claim 21, ~~wherein the apparatus comprises~~ further comprising:

~~a measuring unit~~ measurer configured to measure the Doppler spread at the prefilter output.

29. (Previously Presented) The apparatus of claim 21, wherein the Doppler spread or the correlation between the channel measurements is kept at least substantially constant at the prefilter output.

30. (Currently Amended) The apparatus of claim 21, wherein ~~the~~ changes in the sample rate correspond to changes in a bandwidth of the a decimator filter and an interpolator filters filter changes in relation to a change in the sample rate which are used to perform sample rate adaptation.

31. (Currently Amended) A ~~prefiltering arrangement~~ apparatus, comprising:
variable determining means for determining from a received signal at least one variable representing statistical characteristics of a channel;
determining means for determining the number of prefilter taps using the at least one variable representing the statistical characteristics of the channel; and
adapting means for adapting sample rate of a prefilter output for a channel estimator used when receiving signals, wherein the sample rate is adapted in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of channel determined from the received signal.

32. (Cancelled)

33. (Currently Amended) An apparatus, comprising:
variable determining means for determining from a received signal at least one variable representing statistical characteristics of the channel;
determining means for determining the number of prefilter taps using the at least one variable representing the statistical characteristics of the channel; and
adapting means for adapting sample rate of the prefilter output for a channel estimator used when receiving signals, wherein the sample rate is adapted in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of channel determined from the received signal.

34. (New) A computer program embodied on a computer readable medium, said computer program configured to control a processor to perform:

determining from a received signal at least one variable representing statistical characteristics of the channel;

determining a prefilter using the at least one variable representing the statistical characteristics of the channel; and

adapting sample rate of the prefilter output for a channel estimator used when receiving signals, wherein the sample rate is adapted in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of channel determined from the received signal.